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ABSTRACT

CHOICES (Computer Heuristic Occupational Information and Career Exploration Systems), was implemented in eight secondary schools in the fall of 1984. Two additional secondary schools acquired the CHOICES program in the fall of 1985, subsequent to the reporting of the results of the first evaluation, in February 1985. This study evaluated the perceptions of counselors and teachers regarding the effectiveness of the CHOICES program and the effectiveness of the career counseling process involving CHOICES in achieving objectives of increasing career awareness and self-awareness, developing decision-making skills, and developing motivation. Interviews were conducted with guidance counselors in 10 schools and counselors provided statistics for the use of CHOICES in the 1985-1986 academic year. Students (N=65) evaluated the usage, implementation, advantages, and disadvantages of CHOICES. The results of the evaluation suggest that CHOICES has achieved wide-spread use, with about 588 students participating in the full CHOICES career counseling process. Students using CHOICES showed greater career maturity than students not participating in CHOICES. Most of the feedback from guidance counselors and students was positive, with a considerable number of advantages identified. Although guidance counselors listed a number of disadvantages of the CHOICES program, the majority of guidance staff indicated that the benefits of the program outweighed the disadvantages. (ABL)

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RESEARCH REPORT

ED315697

CHOICES

The Perspective of Participating Students and Staff

Year II

Sandra Sangster

August, 1986

CG022276

U.S. DEPARTMENT OF EDUCATION
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INTRODUCTION

Background

Guidance and Counselling Services requested the assistance of Educational Research and Evaluation Services in assessing the impact of the introduction of CHOICES as an adjunct to the career counselling process.

CHOICES is a computer-assisted career exploration program which was made available to students in eight secondary schools in the fall of 1984. Two additional secondary schools acquired the CHOICES program in the fall of 1985.

Data collected in the first year of the evaluation consisted of three main components:

1. interviews with guidance counsellors using the CHOICES program as a career counselling aide;

2. a survey of students regarding their uses and perceptions of the CHOICES program itself;

3. pilot testing, on students who completed the CHOICES program, of an inventory (The Career Planning Survey) designed to measure changes in students' career maturity (i.e. their ability to make well informed career decisions).

More specifically, counsellors were asked to discuss the ways in which CHOICES had been implemented in their schools, their impressions of the process and its advantages and disadvantages, and suggestions for change. The student questionnaire concerned pre-CHOICES counselling/preparation, their use of the computer, follow-up activities, and their perceptions of the usefulness of CHOICES as a career counselling tool. The results of Year I of the CHOICES evaluation appear in a research report entitled "CHOICES - Perspectives of Participating Students and Staff Year I" (E.R.E.S. Research Report, February, 1985).

Purpose of Study

As in Year I of the CHOICES evaluation, two questions formed the basis of the study:

1. Do counsellors/teachers perceive CHOICES to be an effective tool in the career counselling process?

2. Is the career counselling process involving CHOICES effective in helping to achieve the following objectives (as established by Career Centre and Research staff):

   a) increase career awareness - make students more aware of the need to plan for a career and of the variety of occupations available;

b) increase self-awareness - encourage students to examine their needs, abilities and interests and to match them to occupational possibilities;

c) develop decision-making skills - make students more aware of the criteria which must be considered when choosing a career, and teach them how to both prioritize their needs and interests and negotiate the best possible match between their personal needs and the characteristics of occupations;

d) develop motivation - motivate students to plan for their career and to seek further information regarding occupational opportunities.

METHODOLOGY

While the first year of the CHOICES evaluation was devoted to the collection of descriptive data from students and counsellors, and the refinement of measurement instruments, the second year of the study involved a more extensive analysis of the effects of the implementation of CHOICES on students' ability to make well-informed career decisions (i.e. students' career maturity). A pre/post-test design, which included a no treatment comparison group was employed to determine whether use of the CHOICES program affected students' career maturity, as assessed by the Career Planning Survey.

Data were gathered by means of questionnaires and/or interviews from the following groups:

- all guidance counsellors having used CHOICES as part of the career counselling process in the ten secondary schools in which CHOICES has been implemented (Bathurst Heights S.S., Don Mills C.I., Downsview S.S., E.S. Etienne Brûlé, Georges Vanier S.S., N.A. Boylen S.S., Northview Heights S.S., Sir Sanford Fleming S.S., Victoria Park S.S., Westview Centennial S.S.);

- students who were likely to participate in the CHOICES program as part of one of their first semester courses, or who expressed interest in doing CHOICES on their own initiative;

- A comparison group of students who were not scheduled to do CHOICES in the first semester.

The collection of student data was limited to five of the ten schools in which CHOICES has been implemented (Etienne Brûlé, Vanier, Boylen, Fleming and Westview). It was felt that the collection of student data from five schools would provide an adequate sample of student data, while at the same time simplifying the data collection procedures. The selection of schools was done in collaboration with staff at the Vocational Career Centre.

Development of the Career Planning Survey

Although information gathered from both guidance counsellors and students regarding the implementation, usage and advantages/disadvantages of CHOICES provides a very valuable insight into their perceptions of the program, it was felt that a measure of actual changes in students' abilities to make well-informed career decisions would provide a more objective evaluation of the CHOICES program. A survey conducted in Year I failed to reveal any appropriate instruments. Thus, the Career Planning Survey (CPS) was developed by Research staff for this purpose.

The CPS was designed to assess the extent to which students understand the factors involved in making an informed career choice and have mastered the knowledge, attitudes and skills required for successfully undertaking career planning and implementation. The items are more attitudinal than cognitive in nature with the focus being placed on students' attitudes, feelings and knowledge with regard to career decision making and planning.

The items in the CPS were drawn from a variety of career maturity inventories (Crites, 1965, 1978; Holland, 1980; Osipow, 1980; Super, 1981) and have been divided into three main sections. The first two sections (Scales B and C, consisting of 22 and 5 items, respectively) are designed to assess students' self-awareness, their knowledge of criteria which must be used when making a career decision, and their preparedness for making such a decision. The third section (Scale D, consisting of 28 items) presents a series of concrete situations in which students must apply their knowledge of the career decision-making process in order to reach a solution. The skills involved in the third section include the following:

- matching interests, abilities and goals to occupations and leisure activities
- developing self awareness
- preparing for future educational and/or occupational experiences
- seeking information and decision-making.

Refinement of Questionnaires and Interview Schedules

A draft of the CPS was pilot-tested in six North York secondary schools in the spring of 1985. A total of 153 students in grades 9 to 13 at both the general and advanced levels completed the inventory. The data for Scales B and C were analysed by researchers at the Institute for Social Research, York University to determine the reliability of items in both scales, while Scale D was examined for item-discrimination by staff members of Educational Research and Evaluation Services.

Following these analyses, eight poorly discriminating items were deleted from Scale D. The remaining 20 items were retained in the questionnaire used in Year II of the evaluation. Analyses of the CPS data collected in Year II revealed acceptable levels of reliability for all three CPS scales, although it appeared

likely that Scale B of the CPS was measuring two related, but distinguishable aspects of career maturity. This possibility was examined further using the pre-test CPS data collected in Year II of the evaluation from 76 students. These analyses were again conducted by staff at the Institute for Social Research. They served to confirm that the 22 items of Scale B in fact formed two distinct subscales.

The longer of these two subscales was labelled as the Career Knowledge and Decisiveness subscale (B.1). It was formed by 16 of the 22 CPS items, with high scores on these items reflecting greater decisiveness about career plans, greater knowledge about oneself and occupations, and greater consideration of the topic of career decision making. The Need for Information subscale (B.2) was comprised of the remaining six CPS items. High scores on these items reflect students' greater awareness that they need more information about themselves, occupations and the compromises which may be necessary in order to make career decisions based on that information.

Although recognition that certain types of specific information are necessary to make an informed career choice may reflect a greater knowledge of one aspect of the process of career decision-making, understanding something about the process does not necessarily imply that the desired outcome has been reached (i.e. students have the necessary information or have already made a career decision). Thus, contrary to initial expectations that all 22 CPS items would reflect greater career maturity, students who recognized that they needed more information to make an informed choice tended to receive lower scores on the Career Knowledge and Decisiveness subscale.

All subsequent analyses of the impact of the CHOICES program were thus based on the following four outcome measures:

Scale B.1 - Career Knowledge and Decisiveness Subscale
Scale B.2 - Need for Information Subscale
Scale C - Satisfaction with Current Educational/Career Plans
Scale D - Application of Career Decision-Making Process

The interview schedule developed in Year I for use with guidance counsellors was used again to assess their impressions of CHOICES' effectiveness as a career counselling tool. The student questionnaire pertaining to the usage of CHOICES was simplified and reduced in length based on the results found in Year I of the CHOICES evaluation.

Copies of the counsellor interview schedule, the CHOICES questionnaire and the revised Career Planning Survey may be found in Appendices A, B and C, respectively. Details of the reliability analyses conducted in Year I and II, along with the correlations among the CPS scales are provided in Appendix D. All instruments were translated into French so that comparable data could be collected at Etienne Brûlé.

Data Collection Procedures

Guidance counsellors in the five schools selected for detailed study were given copies of the pre-test Career Planning Survey to distribute to students in mid October, 1985. For four out of the five schools, guidance counsellors planned to introduce CHOICES to students enrolled in specific first semester courses (e.g., Grade 12 advanced English classes). Thus, pre-test data were collected from intact groups at these four schools. Since the Guidance Department at the remaining school was not planning to introduce any class groups to CHOICES until the second semester, the intent was to pre-test individually those students who expressed an interest in doing CHOICES through their own initiative.

Pre-test career planning data were also collected from a sample of students who were not introduced to CHOICES during the first semester. These data were collected from intact class groups at the same grade and level as those who received the orientation to CHOICES and the opportunity to participate in the CHOICES program itself. In some cases, these students were in classes which received the orientation to CHOICES later in the second semester.

The collection of post-test data proved to be problematic for a variety of reasons. Foremost among the difficulties encountered in collecting the data was the considerable delay experienced by all schools in receiving functioning copies of the revised occupational discs. In addition, delays in receiving computers and a variety of hardware problems were experienced by some schools. Such problems led to further postponements in providing the CHOICES program to students. By the end of the first semester in January 1986, a significant number of the students who had been pre-tested had still not been scheduled for their CHOICES computer session. Thus, for the most part it was not possible to administer the post-test CPS and CHOICES questionnaires to the intact class groups which had been pre-tested. Guidance staff were asked to post-test students on an individual basis following their completion of the CHOICES program. Thus, post-testing took place in the period from January to April, 1986.

Further difficulties involved obtaining complete data (i.e. post-test CPS and the CHOICES questionnaire) from those students who were individually tested. A large number both instruments were distributed by guidance staff to students who were pre-tested on the CPS, but the majority were not returned by students. This may be attributable to the considerable amount of time students had already expended in doing the pre-test CPS, the CHOICES guide, and the CHOICES program itself. The apparent unwillingness of students to complete two fairly lengthy questionnaires on their own time, when there was both little remaining incentive to do so, and many competing demands on students' time, led to a reduction in sample size (both in terms of the number of schools and number of students).

Interviews with guidance counsellors who had been involved in CHOICES were conducted from late April to early May in eight of the schools. Interviews with counsellors at the remaining two schools were conducted in June. Counsellors at all ten schools were contacted in June and asked to provide year-end statistics regarding the total number of students who worked with the CHOICES program in the 1985-86 academic year.

RESULTS

Statistics on students' usage of CHOICES are reported for each school from which detailed information is available. Responses made by students and guidance counsellors through the CHOICES Questionnaire and counsellor interviews are reported together in the middle sections of this report. The results of the pre-post analysis of students' career maturity are reported in the final section. The headings for each of these sections are listed below:

- Student Usage of CHOICES
- Implementation of CHOICES
- Using the Computer
- Advantages of CHOICES
- Disadvantages of CHOICES
- Comparison of CHOICES with Interest and Aptitude Inventories
- General Impressions
- Suggestions for Change
- Pre-Post Analysis of the Career Planning Survey

A total of 65 questionnaires pertaining to the usage of the CHOICES program were received from students. Because the majority of students who completed the CHOICES questionnaires were Advanced level (92%) Grade 12 (65%) students, no attempt was made to report student responses by grade and level. Twenty percent of the sample were in Grade 13 or were taking both Grade 12 and 13 subjects. A further 12% were in Grade 11, while the remainder were in Grade 10 (1.5%) or did not specify a grade (1.5%).

Student Usage of CHOICES

A breakdown of the number of students who participated in the CHOICES program by grade is presented below for the six schools which had detailed information available. Of the 455 students who used CHOICES at those schools, almost 50% were in Grade 11, with an added 40% enrolled in Grade 12. Most of the remaining students (9%) were in Grade 13.

Number of students using CHOICES at schools for which detailed information was available.

School	10	11	12	13	Total
A	5	9	7	2	23
B	-	-	18	2	20
C	-	50	45	20	115
D[1]	-	-	67	-	67
E	1	11	39	15	66
F	2	156	6	-	164
Total	8	226	182	39	455
Percent	**2**	**50**	**40**	**9**	**100**

All of the students who used CHOICES at schools B, D, and E were advanced level. The majority of users at both schools C (87%) and A (74%) were also advanced level. In contrast, most of the students who did CHOICES this year at school F were general level (71%) and about 13% were basic level. The latter students did selected parts of the program but did not do the full program including the Guide. The remaining 16% were advanced level. In part, these differences reflect differences in the student population of each of these schools.

Because of the number of hardware and software problems experienced at two schools this year, no detailed log was kept. Counsellors estimated that 10 or fewer students at one of these schools, and 25 to 30 at the other school completed the CHOICES program. Of the two schools that acquired CHOICES this year, approximately 70 students, primarily in Grades 11 and 12, used CHOICES at one of them. Of the estimated 50 students who did CHOICES at the remaining school, 16 were in Adult Education, while the remainder were in Grades 11 or 12. An additional 100 students at the latter school made use of part of the CHOICES program (primarily, the SPECIFIC route).

In summary, approximately 588 students at the ten secondary schools participated in the full CHOICES program. An estimated 122 students used selected parts of the program. The latter is probably an underestimate of the number who used selected parts of the program since most schools were unable to provide figures for students who dropped in to look up career information using routes such as SPECIFIC without completing the full program.

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1 A small group of Grade 10 and 11 students were working with CHOICES late in the academic year, in addition to the Grade 12 students who already completed the program.

Implementation of CHOICES

Both students and guidance counsellors were asked to describe the ways in which CHOICES had been implemented in their schools this year. Information was elicited regarding the various uses of CHOICES, the means by which students were made aware of its existence, the pre- and post-interaction counselling sessions, and the training provided for the guidance counsellors.

Of the 65 students who returned completed CHOICES questionnaires, 44% indicated that they heard about CHOICES through the referral of a guidance counsellor. An added 35% of students heard about it because an introduction to CHOICES was provided in one of their classes, while 14% were referred by a teacher. Three percent heard about CHOICES from friends, while the remainder heard about it through other sources such as notices on bulletin boards, announcements, etc.

The responses of guidance counsellors regarding how students were made aware of CHOICES were somewhat more detailed, and are outlined below:

	# Schools
. Students are referred on an individual basis by a guidance counsellor or teacher.	10
. Guidance counsellors introduce students to CHOICES in specific classes (e.g. p.h.e., computer science, English, Français, career development, co-op program, home forms), with completion of CHOICES varying from compulsory to optional.	9
. Students hear about CHOICES from friends and classmates.	7
. Students hear about CHOICES through displays or announcements at school, brochures, posters, principals' letters to parents.	6
. Students are informed about the SPECIFIC route when they request specific career information.	6
. Students or parents find out about CHOICES through shopping mall displays.	2
. A list of course related careers was made up for subject teachers.	2
. Some students learn about CHOICES from school librarian.	1
. Job descriptions printed out and compiled into binders for reference by students.	1
. Extensive campaign using CHOICES video was conducted before school and at lunch.	1

Students are usually introduced to CHOICES by means of an individual or group orientation session which is used to explain what CHOICES is and how to complete the guide. For many of the students, this orientation is done in class. In

some instances class time is allocated for the completion of the guide, while in others students take the guides home to complete them. Two strategies, which have been employed on a limited basis to ensure that the guides are completed and returned, have been to give marks for completion or charge a refundable deposit for the guide booklet. Students who come to do CHOICES individually either receive an individual or small group orientation to the program. In all cases, once the students have completed the guide they meet with a guidance counsellor for a one-to-one counselling session. A second counselling session is held after the student has used the computer in order to discuss the results. However, some students do not make follow-up counselling appointments, preferring instead to think about the results on their own.

Approximately 23% of students indicated that they had participated in both group and individual orientation sessions, while about 43% had been involved in a group session only. A further 28% had received the orientation on an individual basis. The remaining 6% of students either did not have an orientation session or did not reply to the question. The overwhelming majority (92%) indicated that the orientation had been conducted by a guidance counsellor. For the remainder, the orientation was conducted by either a parent volunteer (6%) or a teacher (3%). This year, a larger proportion of students reported seeing the video explaining the CHOICES process (57% compared with only 28% in 1984-85).

About 72% of all students reported having a one-to-one counselling session with a counsellor after completing the guide but before using the computer. A smaller proportion of students (51%) reported having spent time discussing the results of their interaction with CHOICES with a counsellor. Of those who did see a counsellor, 91% reported that the amount of time spent discussing the results was "about right", while 6% felt it was "too short".

The guidance counsellors were asked to comment on the training they received to prepare them for assisting students with CHOICES. The majority reported that their training had been "good", and in some cases "excellent" or "extremely helpful". A few offered suggestions for changes in the staff training program, while some expressed dissatisfaction with certain aspects of the program. Their comments are summarized below:

	# Schools
• The training gets you started but hands-on practice is needed to really learn the system.	4
• Counsellors themselves have done additional training of the staff at their schools.	3
• The training anticipates some, but not all of the problems that occur. Additional training after counsellors have had some time to use CHOICES with students would help them to resolve problems they've actually encountered.	2
• Some of the information on the workings of computers is unnecessary; the training could be condensed into 2 days.	2

	# School
• Expand the length of the training time and the amount of P.D. time allocated for CHOICES.	1
• Difficulties were encountered in obtaining CHOICES training for a paraprofessional. CHOICES Assistant training was finally provided but it glossed over many aspects of the program.	1

Counsellors at two schools indicated that it had been difficult to put the training into practice this year due to serious hardware and software problems, while a counsellor at a third school found it difficult to find the time for training on the Education and Training file due to semestering.

Using the Computer

Students were asked a number of questions regarding their actual use of the computer, including information about the routes they used. Virtually all of the students sampled used EXPLORE. The second most frequently used route was SPECIFIC (68% of students), followed by COMPARE (62%) and RELATED (48%). The majority of students in the sample (57%) did not use the Education and Training file, whereas 34% did make use of this file. The remaining 9% of students indicated that the ET file was not applicable to them or did not respond. For the students who used the ET file, the average number of occupations investigated was three. Had all schools been surveyed, the proportion of students using the ET file would probably be much lower than the 34% usage reported here, since counsellors at several schools stated that they either did not use the ET file at all or used it only occasionally. Only for one of the schools was the use of the ET file integrated on a fairly regular basis into a second hands-on computer session.

Advantages of CHOICES

Both guidance counsellors and students were asked to discuss the advantages of using CHOICES as part of the career counselling process. As in Year I of the evaluation, their responses can be classified under two main headings: Advantages for students and advantages for guidance staff.

I. Advantages for Students

As was found in Year I of the evaluation, guidance counsellors and students cited a large number of benefits for students as a result of their interaction with CHOICES. These benefits are related to increased self awareness, more extensive information about occupations, increased motivation to plan for a career and increased awareness of the many factors to be considered when making a career choice.

Students were asked to discuss whether or not they experienced any difficulties in dealing with the computer or in understanding the program. As was found last year, most students reported using CHOICES with relative ease. In total 78% of students had few, if any, difficulties understanding the guide booklet, with the remaining 22% reporting that some difficulties had been experienced in this regard. Although 37% of students rated the guide as being from "somewhat" to "much too long", the majority (63%) of students felt that the guide was not at all or only slightly too long.

By far the majority (92%) of students reported having little or no difficulty understanding the CHOICES program itself the first time they used it. Virtually all students reported feeling "somewhat" to "very comfortable" in dealing with the computer, with only 3% reporting that they had not felt at all comfortable. The few who reported feeling uncomfortable using the computer commented that it was frustrating or that they had no prior experience with computers. While most students indicated that they felt just as comfortable interacting with a counsellor as they did with CHOICES, 17% replied that they gave information to the computer that they would have been uncomfortable providing to a counsellor.

An important component of the CHOICES counselling process is the completion of the guide. By working through the various topics, it is hoped that the student will gain a better understanding of his/her interests, abilities and career goals and that she/he will become more aware of how to make career decisions. The students were asked to discuss the extent to which the guide helped meet these objectives and from the responses received, it would appear that they found it quite helpful, although to a somewhat lesser extent than was reported last year. This year, 82% of students indicated that the guide was "somewhat" to "very helpful" in clarifying their interests, abilities and career goals. Eighty percent reported that the guide had "somewhat" or "to a great extent" increased their awareness of how to make career decisions. Slightly more than three-quarters of students felt that the completing the guide had "somewhat" or "to a great extent" prepared them for their session on the computer. A further 12% felt that completing the guide had "slightly" helped to prepare them, while the remaining 11% did not feel that it had helped at all.

Other advantages of CHOICES are that the program encourages students to begin planning for their future careers, to seek further information regarding occupational opportunities, and to discuss career plans with others. Students were asked what they did with their computer printout from CHOICES (i.e. the list of careers deemed compatible with the student's interests and abilities). Their responses are summarized below:

	% Students
. studied it by myself	88
. showed it to a parent/guardian	45
. showed it to a friend	31
. showed it to a counsellor	11
. showed it to a teacher	2
. no response/threw it away	5

The most notable difference in the responses of students in this year's sample was the small percentage of students who reported showing their printouts to guidance counsellors (11% versus 55% in 1984-85). This finding is difficult to interpret in view of the fact that 51% of this year's sample reported spending time with a counsellor/teacher discussing the printout. Using CHOICES reportedly stimulated discussion of occupations with parents, friends and/or others for 68% of the students surveyed.

Sixty-nine percent of all students indicated that counsellors had identified a number of possible follow-up activities for them to pursue. These activities were suggested either in individual discussions with counsellors regarding the results of students' interaction with CHOICES, or during other contacts with counsellors, aides or teachers. Students reported that the following activities had been suggested:

	% Students
. more in-depth research on occupations	34
. examining educational possibilities	32
. further testing to clarify interests and aptitudes	31
. investigation of training programs and apprenticeships	22
. using CHOICES again	17
. related work experiences (volunteer, summer, co-operative)	17
. discussions with people working in different occupations	11
. visits to various work sites	5

Of the students who reported that possible follow-up activities had been suggested, about 56% indicated that they had engaged in one or more of these activities. For students who did not pursue these suggestions, the most commonly cited reasons were lack of time and lack of interest in the particular follow-up activities or career areas suggested. For students who reported pursuing some of these ideas, the majority investigated educational or training requirements of occupations or possible locations for obtaining the required training (52%). An additional 24% of students reported conducting more in-depth research on occupations. The remaining follow-up activities engaged in by a limited number of students were among those previously listed as possibilities by counsellors.

Of the students who reported individually discussing their results with a counsellor, approximately 52% of students found the discussion to be very valuable, with a further 36% indicating that it had been somewhat valuable. Comments made by many of these students about the ways in which the discussion had been very or somewhat helpful included the following:

	% Students
. helped students focus on future plans by either confirming students' career objectives or allowing students to focus on areas not previously considered	24

	% Students
. clarified the requirements of particular jobs and made them more comprehensible, as well as increasing understanding of what to look for in a job	21
. summarized the information provided by the computer and improved students understanding of the results, as well as providing students with an opportunity to discuss their concerns	17
. counsellor encouraged the student to spend more time on CHOICES	3
No Response	**34**

The remaining 12% of all students who had a discussion with a counsellor felt that it had been only slightly valuable, commenting that not much had been discussed due to time constraints, they needed more information, or they felt confused and frustrated with the computer.

Students also evaluated a number of other features of the CHOICES program, including the value of the various routes, CHOICES' ability to match interests and aptitudes with appropriate occupations, and the usefulness of the information provided. Students were asked to select the route which they found the most valuable and to explain why. Their responses are summarized below:

	% Students
. **EXPLORE**	48
- defined interests and helped organize priorities more clearly - helpful in narrowing down the career choices of interest - provided general information about career options that corresponded to interests, aptitudes and values	
. **SPECIFIC**	25
- provided detailed information about careers, including what is entailed in specific jobs - explained what is required in order to enter a particular career	
. **COMPARE**	17
- clarified the differences between two occupations - helped to narrow down career choices by providing comparisons of related careers	

	% Students
. **RELATED**	8
- increased awareness of a variety of occupations and permitted comparisons of various occupations within a particular field - broadened career options within a particular field by providing information of which the student was not aware	
. **NO RESPONSE**	3

Students were also asked to indicate how helpful the ET file, had been. Of the 22 students who reported using the ET file, 77% rated it as having been "very helpful", with 18% rating it as "somewhat helpful". The remaining 5% of students provided no rating. Of the students who found the ET file to be very helpful, 59% commented that it provided a clear explanation of the educational requirements of specific career areas. Twelve percent indicated that it provided new information and gave students an idea of what they would be "getting into" if they selected certain career paths. An additional 12% reported that it provided information about occupations that branch from the original occupations which were printed out. The small number of students who rated the ET file as somewhat helpful each provided several comments including the following:

- the process is too long and frustrating
- the information in the ET file was too general
- the student expected more jobs to be printed out
- it allowed the student to look into careers that had not previously come up on the computer

Students were asked to evaluate the appropriateness of the occupations suggested by CHOICES in order to assess whether or not the program helped relate students' abilities and interests to occupational possibilities. Seventy-seven percent of the students reported that they had a clear idea of the occupations they were interested in before using CHOICES. Of that group, 20% indicated that CHOICES had confirmed their ideas, while an equal percentage of students indicated that CHOICES had presented alternatives. The remaining 60% of these students felt that CHOICES had served both functions. Students also rated CHOICES' usefulness in helping them to determine which occupations fit their interests/abilities. Slightly more than half (52%) felt that CHOICES had been very useful in this regard, with an additional 32% reporting that CHOICES had been somewhat useful. Approximately 10% felt that CHOICES had only been slightly useful, while 6% of students rated CHOICES as not at all useful in matching occupations to their interests and abilities. Students' comments are summarized below:

	% Students
For students who rated CHOICES as "very" or "somewhat helpful"	
. CHOICES took into account students' interests and abilities and provided a clear list of related careers to consider; it made students' aware of their skills and how these apply to future career choices.	18
. CHOICES confirmed decisions or ideas about future careers; it showed how students' goals fit in with their interests, abilities and values.	15
. It suggested careers students would never have thought of or that they didn't know were suitable.	11
. Some occupations students wanted were not printed out or occupations that were printed seemed contradictory; more time on computer was needed.	6
. Students realized that some occupations they were considering did not match their interests.	5
. Students' ideas for the future change at times so they plan to use CHOICES again.	5
. All the careers listed were of interest.	1.5
. Students liked the CHOICES method of instruction.	1.5
For students who rated CHOICES "slightly" or "not at all helpful"	
. CHOICES did not print out the occupations which students wanted, or the occupations which were printed out were not of interest.	8
. It wasn't successful; the career information wasn't specific enough.	5
. Students must still make their own decisions.	1.5
No Response	22

For 68% of the sample, CHOICES provided information that students did not already have. When asked to specify the kind of information, students gave the following responses:

	% Students
. CHOICES provides information about education and training requirements as well as about admission standards to educational programs.	25
. It provides detailed knowledge about specific careers (e.g. types of demands, working conditions, salary, hours).	25
. It gives information about different careers that suited students' needs, interests and abilities.	14
. It yields information on the kinds of jobs that will be in demand in the future.	9
. It indicates that there are career opportunities that the student had never heard of or considered before.	9
. It provides comparison information on occupations that the student thought were the same.	5
No response	18

Guidance counsellors were also asked to discuss the advantages which CHOICES has to offer students. As was found in Year I of the evaluation, counsellors views were generally positive, supporting the opinions offered by students. Counsellors also commented at some length on the effects of CHOICES as part of the overall career counselling process and on the value of CHOICES as a means of engaging in self exploration and negotiation. Their responses are summarized below in some detail:

	# Schools
. CHOICES provides an excellent means of self exploration and increasing self awareness (e.g. students can examine and prioritize their values and interests, and think about themselves in new ways).	6
. CHOICES provides a variety of information on specific careers which may lead to the following:	6
- confirmation of students' tentative career ideas or provision of information about related careers of which they were unaware	
- provision of information on careers not previously considered	
- "opening of doors" for students	

	# Schools
. Students realize that many factors are involved in making a career choice; students learn about the values that are related to particular careers and about what expectations may be involved.	5
. CHOICES involves an extensive negotiation process which is a learning experience in itself:	5
- Students can try out alternative input to the program and examine the effects on the output so that their input to CHOICES will become more realistic;	
- Because of the considerable amount of student input, they can "own" both the process and the results.	
. CHOICES is a good "operation" with a well packaged guide and summary which helps to "put things together" for students.	4
. CHOICES provides instant feedback.	4
. It is easier for students to accept results that contradict their unrealistic ideas and to negotiate to resolve the problem when the information comes from a computer as opposed to a counsellor.	3
. Through the use of the "Why not?" option, students can see what factor caused a particular career not to come up.	2
. Computers are non-sexist in terms of the list of careers provided.	1
. Students find it easier to look up educational information in the ET file than in calendars.	1

Staff at one school felt that in its present form, CHOICES is overrated and too complex for most students and does not offer any specific advantages for students. Staff at the two schools which experienced the greatest number of hardware and software problems in Year II, based their comments on CHOICES' advantages largely on their work with CHOICES in the first year of the program. Their views have been included in the above list.

II. Advantages for Guidance Staff

In addition to the variety of advantages which CHOICES offers to students, it is seen by many staff and students as also having much to offer guidance counsellors. Both students and counsellors were asked to describe the ways in which CHOICES has been of value to guidance staff. The majority of their responses centred around the value of the CHOICES program in helping students explore themselves and various career alternatives in a systematic fashion,

giving the guidance department a higher profile, and bringing students in for career counselling who might otherwise not have come.

Students were asked to what extent CHOICES had enabled guidance counsellors to provide more extensive career counselling. Twenty-three percent of students responded that CHOICES had helped counsellors to provide more extensive career counselling "to a great extent", while 38% responded "somewhat" and a further 9% "not at all". Of the remainder, 20% responded that they didn't know and 9% did not answer the question. Although a total of 61% of this year's sample felt CHOICES had allowed for the more extensive provision of career counselling, a somewhat larger proportion of last year's sample (80%) expressed the same views. This difference may reflect chance fluctuation in this year's smaller sample or may be linked to the smaller proportion of students reporting an individual counselling session to discuss the CHOICES printout this year as compared to last year.

When asked to explain the ways in which CHOICES enabled counsellors to provide more extensive career counselling, the students responded as follows:

	% Students
For those who responded "to a great extent" or "somewhat"	
. CHOICES provides more ideas concerning job opportunities, clarifies students' interests and utilizes that information to provide better results.	8
. Students can see the careers that are most relevant for them by going through the program.	6
. Counsellors can provide additional information concerning the occupations that are printed out.	5
. CHOICES provides accurate, up-to-date information on occupations.	1.5
. Counsellors get to know and become closer with students and they can give better career advice.	1.5
. It can give students an idea of what to expect in the future.	1.5
For those who responded "not at all" or "don't know"	
. Student did CHOICES alone and did not see a counsellor.	3
. Student needs to look over the printouts again before seeing a counsellor; some students seemed satisfied and others puzzled by their CHOICES results.	3
. Student does not want a machine to decide what is best.	1.5
No Response	69

The students also indicated that in some cases CHOICES had been the determining factor in encouraging them to seek career counselling. While just over half (54%) the students reported that they would have approached Student Services for career counselling if they hadn't heard about CHOICES, 22% said they would not have done so and 25% responded that they didn't know. Those students who indicated that they would not have approached Student Services if they hadn't heard about CHOICES were asked to explain why. Because so few students provided comments, no consistent trends were noted in their responses.

Counsellors were asked whether CHOICES brought students in for career counselling who otherwise might not have come. Staff in seven of the schools believe that this was definitely the case, citing the following reasons:

	# Schools
. Friends of students who've done CHOICES often drop by to do all or part of the program.	3
. The CHOICES computer is located in the library and is very visible; Students become interested when they see others using it.	2
. CHOICES is seen as up-to-date technology and is very appealing.	2
. Students or their parents saw CHOICES display at a shopping mall and became interested.	1

Of the remaining three schools, staff at one of them indicated that CHOICES did not bring in students for career counselling who would not have come in otherwise because the school is small and counsellors usually manage to touch base with all students anyway. Staff at two schools indicated that students stayed away because word quickly spread among students that the CHOICES system wasn't working properly.

It would appear that CHOICES is able to reach a considerable number of students who have not previously given much thought to their future occupational choices. Forty-six percent of students in this year's sample had never discussed future career selection with a counsellor or teacher, while 35% had never had such a discussion with anyone else. These figures represent an even larger proportion of students who have not discussed future careers than was found last year (last year 30% and 23%, respectively had discussed careers with counsellors or others).

Guidance counsellors were asked to discuss the advantages to themselves of using CHOICES as part of the career counselling process. Their comments are summarized below:

	# Schools
. CHOICES provides access to an extensive career data base and covers a wide range of information that counsellors may not have at their finger tips and which the student otherwise might not find out about.	6

	# Schools
. CHOICES provides an excellent structured means of helping students exploration and career search.	4
. Because CHOICES is on a computer, it has a higher profile with students and is seen as being up-to-date, high technology; it is more appealing than non computerized career counselling methods and thus, students tend to respond more favourably to the process of career exploration.	4
. It is a resource through which counsellors can offer something tangible to students.	2
. Immediacy of feedback is valuable for counsellors as well as students.	2
. It is a valuable extension to the guidance department and the career library and makes students more aware of the services available.	1
. CHOICES helps to put things together for both counsellors and students.	1
. CHOICES provides counsellors with a ready-made program which is easy to learn about and use.	1
. Students can schedule the computer session when it's convenient - the counsellor need not be present.	1

Staff at one school felt that in its present form, CHOICES does not offer any advantages to guidance counsellors. At another school, staff indicated that CHOICES does offer advantages to counsellors but only when the system is functioning properly.

Guidance staff were also asked whether CHOICES had helped make students and/or teachers more aware of Student Services and what is available from that department. Staff at half of the schools thought that CHOICES had in fact done so. Teachers have become more aware of Student Services and the career counselling that is available through a variety of means including the following:

	# Schools
. Teachers were provided with binders of career information related to their subject areas.	2
. Through working at mall displays, teachers have become more aware because CHOICES formed part of the display.	2
. Student Services has provided pamphlets to teachers regarding the services that are available.	1

Staff at two schools responded that Student Services was already well known and thus CHOICES has not really had such an effect. Staff at the remaining three schools did not have definite views on this topic.

Counsellors were asked whether CHOICES had led to a greater emphasis on careers. Staff at one school responded that it had, while those at a second school indicated that this might be the case because CHOICES has been a "real attraction" for the Career Centre in the school. Staff at two schools were unsure, while counsellors at the remaining six schools do not feel that CHOICES has increased the emphasis on careers. Of the schools in which the emphasis has not increased, staff at one of them thought that there might be an increasing emphasis on careers in that school if they acquire the additional staff and space to set up a Career Centre separate from the Student Services office.

Disadvantages of CHOICES

Although CHOICES has many advantages to offer to students and guidance personnel, there are also a number of disadvantages associated with the program. For the most part these disadvantages are related to the amount of time involved in putting a student through the program, operating problems, and the high level of reading and comprehension skills needed to complete the guide. These same disadvantages were cited in Year I of the evaluation.

In general, students were able to identify very few specific disadvantages, with the majority of their comments being enthusiastically in favour of the program. The few unfavourable remarks which were made are noted in the sections which cover general impressions of CHOICES and suggestions for change.

As was the case last year, the greatest number of comments regarding the drawbacks of CHOICES were provided by guidance counsellors. Their comments covered a variety of issues which are summarized in some detail below:

	# Schools
. CHOICES is very time-consuming.	10
. A variety of operating problems were experienced, including one or more of the following:	10
- revised occupational discs were faulty - revised discs, booklets or hardware arrived behind schedule - repairs to bit lock, disc drives or printers - difficulties with syntax errors that require discs to be re-copied or system shut down - difficult to diagnose hardware problems relating to bit lock, hookups or games board.	
. The ET file is too slow and bulky, with most of the information more readily available in publications such as Horizons and Spectrum.	9

	# Schools
• CHOICES is more difficult and time consuming to use with general level, intermediate grades or borderline advanced students because of the following: - high level of reading and comprehension skills required to complete guide and interpret the printout - difficulty in understanding the negotiation process - these students are more likely to "paint themselves into corners" and end up with very few or no occupations printed out	8
• It can be difficult to obtain completed Guide booklets from students unless class time or some specific incentive is provided.	6
• The operation of the computers is slow (students may get bored or run out of time to complete the session).	4
• The CHOICES program is expensive. For two schools this is regarded as particularly troublesome in view of the problems that remain in the program.	4
• CHOICES program appears to be still in the experimental stages, with materials being released too soon in order to meet deadlines.	2
• There are factual errors in the ET file.	2
• It is more difficult to complete the guide and the program if students have never examined their interests and aptitudes.	2
• Students can only obtain specific information about the main career headings, not about any of the specific careers within a heading.	2
• The data base of careers is limited to only 315 because of the type of computer system available in the school.	2
• Some students place too much faith in the results simply because the information comes from a computer. Counsellors must emphasize that CHOICES is a tool, not a prophesizer, and that the data base does not include all possible career choices or all the information that is available on a given career.	1
• The CHOICES program, including the guide and the video, is unnecessarily complex and covers too much information.	1

Guidance counsellors were asked to elaborate on their comments regarding the time consuming nature of CHOICES and to discuss ways in which the demands on their time could be reduced to a manageable level. Counsellors in four schools reported that they had to sacrifice some of the time that would be spent in other guidance activities in order to accommodate CHOICES, but that this sacrifice was well worth it. In their view, CHOICES offers something very valuable to students because it helps them "open doors" and work through important issues related to self exploration and career choice. The time invested in CHOICES may be worthwhile even for students who only partially complete the program.

Staff in two additional schools did not feel that any time sacrifice had occurred this year because they made effective use of either paraprofessional aides or volunteers in order to conserve counsellor time. Staff at both schools felt that without such help, their usage of CHOICES would have been much reduced due to time limitations. At a third school, the department head responded that when the program is functioning properly, CHOICES does not entail a time sacrifice, because in his view career counselling is one of the main purposes of the department. Staff shortages at an additional school necessitated that CHOICES become a lower priority, and thus no time was sacrificed this year to do CHOICES at the expense of other guidance activities.

Only two schools expressed the opinion that the time sacrificed to work with CHOICES was not worth it. In one case, staff qualified this view by stating that this year there has been little payoff, but when the system is functioning the time expended is worthwhile. Staff at the remaining school responded that CHOICES does not meet the needs which many senior students have for individual counselling, and is not well-suited for general level or intermediate grade students.

In order to reduce the amount of time needed to put students through the CHOICES program, guidance counsellors in five schools have enlisted the help of either student or parent volunteers. In addition three schools have paraprofessional aides trained to work with CHOICES. A fourth school lost their aide in January 1986 and regarded that loss as a major setback. Paraprofessionals and parent volunteers have generally received the CHOICES Assistant Training provided by the Vocational Career Centre. Student volunteers are individuals who have already completed the CHOICES program and have received some training from guidance counsellors in the schools. Depending on their training, these aides and volunteers carry out a variety of duties which may include the following:

- going to classes to provide a group orientation to CHOICES
- in-class demonstration of the CHOICES computer program
- assisting students in the completion of the guide
- scheduling computer sessions and assisting students working on the computer
- helping students look up educational information in the ET file and other sources.

Schools that have made use of paraprofessionals and volunteers this year have found that such individuals are a valuable resource which conserves a considerable amount of guidance counsellor time, and allows CHOICES to reach a much greater number of students than would otherwise be possible. As was found last year, counsellors are pleased with the quality work and contribution of these aides and volunteers to the CHOICES program. Staff in three of the five schools which do not have such extra assistance expressed the view that lack of time does pose a problem to the implementation of CHOICES. Counsellors at three schools expressed doubt as to whether the use of parent and/or student volunteers represents a solution to CHOICES staffing problems because of the difficulty ensuring that the volunteers will stay with the program long enough to justify the time spent training and organizing them.

Counsellors have placed more emphasis on group, as opposed to individual orientation sessions, as a means of reducing the amount of time necessary to put students through the CHOICES program. For seven of the schools, entire class groups have received the CHOICES orientation, with the number of classes introduced in this fashion varying from school to school. At an eighth school, teachers were beginning to express interest in doing CHOICES with their classes towards the end of the academic year. At a ninth school small groups of students were organized to receive the CHOICES orientation and watch the video.

A strategy employed at one school to reduce problems due to the slowness of the CHOICES computer has been to copy the information on specific occupations which is found in COMPARE and SPECIFIC. Once students have their list of possible occupations, the relevant sections can quickly be photocopied for the student, thereby avoiding delays in obtaining that information.

Comparison of CHOICES with Other Interest and Aptitude Inventories

Both students and guidance personnel were asked to compare CHOICES with other interest and aptitude inventories with which they were familiar. Only about 31% of students had ever taken an interest or aptitude test before. Of those students, 30% said that the tests they had taken were less helpful than CHOICES. Forty-five percent indicated that they were just as helpful, and 25% said that the tests had been slightly more helpful. Compared to last year's findings, interest and aptitude tests were more likely to be rated as equally helpful than as less helpful compared to CHOICES.

Guidance counsellors indicated that CHOICES compares very favourably with other interest and aptitude tests and has taken precedence over other instruments in the majority of schools. Their comments are outlined below:

	# Schools
. Through CHOICES, students realize that many factors are involved in career choice, not just interests and abilities; CHOICES is more extensive in scope, and offers much more to students than other instruments.	7

	# Schools
• The time delay involved in obtaining results is a disadvantage of other systems such as SGIS and the JVIS because students may lose interest in the results.	4
• Students should complete interest tests such as the JVIS prior to completing the CHOICES guide in order to improve the accuracy of their input to CHOICES. (One of these schools was not able to carry this out this year, but plans to do so in the future)	3
• CHOICES and other instruments serve different needs (e.g. CHOICES provides a second look at careers for older students, whereas SGIS provides a first look for grade 9 and 10 students.)	2
• SGIS printout involves too much reading and jargon.	2

Individual counsellors provided additional comments comparing CHOICES with other career counselling tools such as interest tests. Staff at one school indicated that they liked the SGIS presentation of information better, although CHOICES provides more information. Another counsellor indicated that the information provided by the SPECIFIC route in CHOICES in less detailed than SGIS, but that CHOICES is preferred for a number of other reasons already listed above. Counsellors at two schools are developing other career counselling tools to try to assist general and basic level students, whose needs are not well served by the JVIS or the full CHOICES program. Staff at one school was in the process of trying a combination of the Career Search Program developed by the Toronto Board of Education and CHOICES' SPECIFIC route with basic level students. Staff at another school is developing a Self-Directed Search mini-course for general level students which provides easier self-exploration activities than CHOICES. Last year, counsellors at this school used the JVIS with general level students as a preliminary step to CHOICES, but found that the test was not well suited to this student group.

Only at two schools did counsellors suggest that a combination of the JVIS and SGIS, along with publications such as Horizons, provides a more effective way of achieving career planning goals than CHOICES. They also felt that students respond more favourably to these alternate methods. It should be noted that one of these schools experienced a large number of operating problems this year, while the other school had only one staff member available to work with CHOICES, and no paraprofessionals or volunteers to provide assistance.

General Impressions

Up to this point the focus of the report has been on the specific components of the CHOICES counselling process and its advantages/disadvantages for both students and guidance counsellors. Overall impressions of the process were also solicited and the responses are discussed in this section. As was found in Year I of the evaluation, both guidance counsellors and students reported in general that they had been very satisfied with the CHOICES counselling process.

Fifty-six percent of students reported that CHOICES had been "helpful" to "very helpful", while a further 37% found it to be "somewhat helpful". Fifteen percent reported that CHOICES had been of only limited help, while the remaining 2% indicated it had not been at all helpful. The majority of students (88%) would recommend CHOICES to other students in their class, while 2% said they weren't sure and 3% did not respond. Only 8% indicated that they would not recommend CHOICES to others, responding that the program had not been very useful for them personally. One student felt that the program was "too experimental".

If the CHOICES program were always available in their school, the great majority of students would like to have additional opportunities to work with the program as outlined below:

	% Students
. more than three times a year	15
. two or three times a year	35
. once a year	42
. never	6
. no response	2

Students were also asked to what extent they thought CHOICES would affect their career plans. Twenty-nine percent thought that it would affect their plans "somewhat", while 37% thought that it would considerably or "to a great extent" effect their plans. Seventeen percent responded that they anticipated only a slight effect, with the remaining 17% indicating that CHOICES would have no effect on their career plans. The following comments were made by students regarding the expected extent of influence of CHOICES on their career plans:

	% Students
For those whose responses ranged from "to a great extent" to "somewhat"	
. CHOICES gave students some direction and helped them look at careers that suited their abilities and interests.	31
. CHOICES confirmed students' ideas about their future career choices.	15

	% Students
. The student has not made a decision but will continue to study and think about it.	3
For those whose responses were "not at all" or "slightly"	
. CHOICES is only a guide; it helps you to think about, but does not determine the future; students must go with their feelings to make a final decision, although CHOICES may broaden the possibilities.	9
. CHOICES confirmed the student's decision or the student had already decided.	5
. Student has not decided on a career (although CHOICES may have clarified interests and helped prepare for future schooling).	3
. Student will probably change jobs during lifetime or won't have a solid career.	3
. Other responses	3
No Response	28

Students were also given an opportunity to make additional comments about the CHOICES program at the end of the questionnaire. Twenty-seven did so. Only four students (15% of those who commented) offered some limited criticism of CHOICES, whereas 85% expressed very favourable views regarding the program. Of the students in the latter group, four offered suggestions regarding how to increase the benefits of the CHOICES program. A sampling of student's favourable comments appears below:

- "I feel that CHOICES was very helpful in my future decisions, and it allowed me to have a wider perspective on other jobs related to my interests".
- "My personal feeling about CHOICES is that it helped me a lot. It confirmed my ideas and plans."
- "The CHOICES program was a great experience. However, it did take a long time to complete, but it was worth it. The only problem is that more computer time is needed and only a limited time and one computer was available."
- "It helped me picture in my mind what I needed to get for my career choice. It also helped me to see what's in store for the future."

- "I think CHOICES was a good investment for the guidance department. The computer part of CHOICES can really attract the shy person."

- "I think all students who aren't sure what they want should try CHOICES. I would like to use it more often."

The additional comments from four students provided some criticism of the program's limitations. One student felt that some of the questions are unfair in the sense that the student is limited to only one response when there may be two suitable replies. Another individual apparently manipulated the program and commented afterwards that it would have been better if he hadn't changed his input to suit a medical field. The third student felt that CHOICES may be good for some but not for those who have no idea where they are going when they finish school. Finally, one person stated that he preferred one-to-one discussions to filling out papers for a computer.

Counsellors were asked to describe any feedback they'd received regarding the CHOICES program from students, teachers, parents, and the school administration. At seven of the schools, counsellors indicated that virtually all of the feedback they'd received from students this year had been very positive, even among those who had been less than enthusiastic about CHOICES prior to their computer sessions. One counsellor commented that he'd seen a few disappointed reactions from those who had come in to do CHOICES "cold" without any preparation in terms of prior interest testing or involvement in a career course. He attributed their reactions to their preconceived ideas, their strong desire to do the program quickly and lack of understanding of the negotiation process. Of the three remaining schools, students at two of them experienced a fair degree of frustration due to the many operational problems at both schools. A number of these students made repeated attempts to complete their computer sessions, with very limited success. At the remaining school, the counsellor felt that the imposition of the evaluation questionnaires considerably "dampened" students' interest in using CHOICES.

Only two schools reported having feedback from parents. Although this has been on a very limited scale thus far, the feedback they've had has all been positive. The other guidance staff at seven of the schools are reportedly pleased with the program. Subject area teachers are gradually becoming aware of the CHOICES program and have begun referring students and utilizing career information taken from CHOICES that is relevant to their subject areas.

At one of the two schools which experienced the greatest number of operational problems, guidance staff planned an extensive CHOICES promotional campaign this year, but have lost confidence in the system. The computer teachers who were involved in this campaign also experienced some frustration. The school administration's reaction has been one of disappointment, with attention now focusing on future budget allocations for CHOICES. At the second school, other guidance staff were in some respects relieved that they were able to continue devoting their full attention to the many other demands faced by Student Services, without having to add CHOICES to those demands to any extent.

The guidance counsellors were asked whether or not CHOICES should be maintained in their schools. Counsellors in eight of the schools were very definite in stating that it should be, although staff at two of these schools indicated they would not buy the ET file again, given the option. Many of them restated many of their previous comments regarding the many advantages of CHOICES including the following:

- It offers many advantages to both students and staff.
- It is a good selling point for the career centre in the school.
- The program is well worth the financial costs.

Staff at one of the schools which acquired CHOICES this year commented that they have barely begun to scratch the surface in terms of what can be achieved with the program.

One counsellor provided comments which clearly summarize one of the key issues regarding the implementation of CHOICES. He feels strongly that it takes time for each school to find a workable system for implementing CHOICES. The system that works best ultimately will depend on each school's circumstances. At this stage, he feels it is unfair to evaluate CHOICES strictly based on the number of students in a given school who complete the program, since many schools have experienced turnover in staff who were trained on CHOICES and are still developing their own means of implementation. In summary, he stated "Don't close it down now", since that would be very premature in his view.

Staff at the remaining two schools do not feel that CHOICES should be maintained based on their experiences with it this year, although both indicated that the schools would carry out their commitment to fund CHOICES for one more year. Both indicated that if improvements do not occur next year in the software, the operation of the system and the number of students who sign up for the program, they will re-evaluate their budget allocations for CHOICES and may decide that the funds can be put to better use elsewhere (e.g. to set up a Career Centre). One counsellor felt that the imposition on students of the questionnaires designed to evaluate CHOICES had considerably reduced students' willingness to do the program. Staff at the other school felt that they did not get their money's worth in terms of the direct costs of CHOICES. Furthermore, the indirect costs were considerable this year, particularly if lost staff time is also considered. In their view, the developers of CHOICES are directly to blame in that they released the program much too soon in order to meet deadlines without the necessary quality checks.

Suggestions for Change

Throughout the interview and questionnaire, guidance counsellors and students were given the opportunity to make suggestions for changes in the CHOICES counselling process and in the way in which it had been implemented in their schools.

Students were asked if there was anything that could have made their experience with CHOICES more useful. Their responses were as follows:

	% Students
. nothing	34
. using the CHOICES program more often	26
. spending more time when at the computer	26
. having more counsellor assistance	20
. knowing more about using the CHOICES program	14
. using the computer by myself	6
. other - more convenient hours to use CHOICES (e.g. spares, lunchhours)	2

Guidance counsellors offered a variety of suggestions for changes which would improve the CHOICES program itself or its implementation. These are listed below:

	# Schools
. Provide class time, charge a deposit or provide some incentive such as marks to ensure that students complete and return the Guides.	6
. Integrate CHOICES into existing programs wherever possible e.g. - Introductory computer classes - Grade 12 English (incorporate CHOICES when the class covers job applications and résumés) - Adult Education business courses - Career planning courses.	5
. Increase the allocation of counsellors and/or para-professionals so that there is sufficient staff available to implement CHOICES and conduct other guidance activities.	4
. Simplify CHOICES or develop a new program which is more appropriate for general level and intermediate grade students (e.g. reduce and simplify the information provided; provide software with graphics)	3
. Eliminate the bit lock to allow multiple users, thereby conserving counsellor time.	3
. Add a second computer so more students can do CHOICES	2

	# Schools
• A number of suggestions were offered regarding the software including the following:	
- keep software costs down or provide central funding	2
- increase the career data base	2
- set more realistic deadlines for the release of updated software so that it is properly checked	2
- allow for the comparison of specific careers, not just the main career headings	2
- provide software on a trial basis so it can be fully tested before purchase	1
- combine EXPLORE and RELATED on one disc, and SPECIFIC and COMPARE on another to simplify the system	1
- integrate the educational information with the COMPARE and SPECIFIC files to simplify the system	1
- make the software compatible with more computer systems	1
- improve the speed at which the program runs	1
• Further suggestions were offered by counsellors at individual schools, including the following:	
- improve the information provided in the CHOICES newsletter	1
- provide more professional development time for counsellors	1
- provide increased recognition of the value of volunteers in implementing CHOICES	1
- use in-class demonstration on the computer to increase students' interest in doing CHOICES.	1

Counsellors at two schools elaborated on their suggestion that CHOICES is more effective when integrated into existing programs, particularly Career Planning courses. In their view, it is more difficult to use CHOICES with students who come in on their own without prior exposure to career planning courses or interest testing. Such students may have more preconceived ideas about careers and are more likely both to have difficulty understanding the negotiation process, and to be disappointed with the results. More counsellor time is usually required to help such students do the CHOICES program because it is difficult for students to know themselves well enough to provide accurate, realistic information unless they have previously considered some of the issues involved in career planning. For some students who come in to do CHOICES individually, the "transfer from dreams to reality in such a short space of time can be difficult", in the view of one counsellor. Integrating CHOICES within existing programs or courses means that more time may be available to increase students' understanding of themselves and the CHOICES counselling process.

Guidance counsellors were asked to indicate which grades represent the most appropriate time for introducing CHOICES to students. Staff at eight schools responded that CHOICES is most appropriate for senior students in grades 11 or 12. No one suggested grade 13 as the most suitable time. Within those eight schools, there was some difference of opinion as to whether grade 11 or 12 is in fact the more suitable. Staff at two schools indicated that CHOICES is suitable for any senior grade, while staff at two other schools responded grade 12. It should be noted that most of this year's grade 12 students in one of the latter schools were planning on attending grade 13 and thus still had a number of decisions facing them.

Staff at the remaining four schools argued that grade 11 is the most appropriate point at which CHOICES should be introduced because so many students must make career and educational decisions in order to send out community college applications in the fall of their grade 12 year. Thus, many career related issues must be considered when students are in grade 11. Even though grade 12 and 13 students may be more self aware, and thus may be better able to work with the CHOICES program, many of these students have already made crucial decisions and are thus less interested in what CHOICES has to offer.

Of the remaining two schools, the counsellor at the first indicated that CHOICES should be introduced beginning in grade 10 although he felt that mature grade 9 students could benefit from the program. He felt that CHOICES should continue to be offered to more senior students when they reach the stage of making post-secondary educational plans. The counsellor at the tenth school felt that the topic of career planning should be introduced in grade 9 and discussed in subsequent years. However, it was his view that CHOICES is too complex and has too much information to be used with students in this age range.

Pre-Post Analysis of the Career Planning Survey

In order to determine whether changes in career maturity occurred following participation in the CHOICES career counselling process, four repeated measures Analyses of Variance (ANOVA) were conducted, one with each of the four outcome measures previously discussed. The following factors were included in these analyses:

- Schools (2)
- Time of Testing (2 - pre versus post-test)
- Treatment (2 - CHOICES versus no treatment comparison group)

Because of the previously discussed difficulties in obtaining post-test questionnaires from the students who were pre-tested, there was only sufficient matched data to include two schools in these analyses. At one school, matched pre- and post-test data were available from 10 students who participated in CHOICES, and from 18 students in the no treatment comparison group. At the second school, the sample consisted of 20 students in the CHOICES experimental group, and 24 in the no treatment group. Thus, the total sample size for this analysis was 72. The ANOVA summary tables for these analyses are provided in Appendix E.

For the Career Knowledge and Decisiveness Scale (B.1), two significant effects were found. There was a significant difference between pre- and post-test scores on this measure, with students receiving higher career maturity scores on the post-test. However, there was also a significant interaction between the treatment which students received (CHOICES versus control group) and the, time of testing. Thus, the difference between students' pre- and post-test scores depended on the treatment which they received.

Scores on the Career Knowledge and Decisiveness Scale (B.1) were virtually unchanged for students who did not participate in CHOICES. Students in the CHOICES group were initially lower in career maturity than those in the no treatment comparison group. However, by the time of the post-test there had been substantial gains in career maturity such that they scored higher than students in the comparison group. The means for this interaction are reported below.

Group	Pre	Post
No treatment	58.5	59.0
CHOICES	56.8	62.2

For the Need for Information Scale (B.2), no significant treatment, time of testing or school effects were found for this sample, nor were there any significant interactions between these factors.

The pattern of results for the third outcome measure (Scale C), assessing students' confidence in, and satisfaction with their career and educational plans, was identical to that found with the Career Knowledge and Decisiveness Scale. Two significant effects were found, one due to time of testing and the second representing an interaction between treatment group and time of testing. Although post-test scores were higher than pre-test scores indicating increasing career maturity over time, the extent of the difference between the pre- and post-test depended on the treatment group. Students who participated in the CHOICES counselling process initially reported less confidence in and satisfaction with their career and educational plans than those in the control group. While students in the control group changed very little over time, students who used CHOICES received higher scores than the control group students at the time of post-testing. The means which represent this interaction are the following:

Group	Pre	Post
No treatment	15.6	16.0
CHOICES	14.5	17.6

The initial differences in career maturity which were found between the students who participated in CHOICES and those who did not may reflect chance differences between groups. Such initial differences are more likely to arise in quasi-experimental designs such as this one where random assignment of students to different treatment groups is not feasible. Furthermore, for one of the two schools the experimental group data which were used in the pre-post analysis of the CPS were based on a small sample of only ten students.

Quite a different pattern of results was found for the fourth outcome measure

(Scale D), involving the application of career decision-making process to specific scenarios. Significant main effects were found for the factors representing schools and time of testing. No treatment effects were found. Pre-test scores were significantly higher than post-test scores. Furthermore, students at the first school were significantly more career mature than those at the second school. The means for this outcome measure appear below.

Group	Pre	Post
School 1	15.8	15.6
School 2	14.5	13.1

It may be that scale D assesses something other than students' ability to make a well informed career choice (i.e. their career maturity), since this measure of the application of knowledge of the career decision-making process did not correlate significantly with any of the other outcome measures. A second possibility may be that the reluctance of students at one school to complete the post-test Career Planning Survey, which was reported by guidance staff, may have had a detrimental effect on this final, lengthy portion of the questionnaire. These items required much more reading than the attitude type items in sections B and C. Furthermore, careful consideration of these achievement-type items is required because only one answer is correct.

Thus, for two of the four outcome measures a significant interaction between the treatment students received and time of testing was found which suggests that participation in the CHOICES counselling process can lead to increases in the ability to make a well-informed career decision. The form of this interaction was that students who did not participate in the CHOICES counselling process were unchanged over time in terms of career maturity as assessed by the Career Knowledge and Decisiveness Scale and the Satisfaction with Career and Educational Plans measure. Even though students in the CHOICES group initially received lower career maturity scores on both measures, they surpassed the control group students on both measures by the time of the post-CHOICES testing.

SUMMARY

The CHOICES program has achieved wide-spread use in its second year, with about 588 students participating in the full CHOICES career counselling process. As was found in Year I of the CHOICES evaluation, most of the feedback received from both guidance counsellors and students was positive, with a considerable number of advantages identified. For students, these advantages included increased awareness of self and of the many factors to be considered when making a career choice, greater access to information about career and related educational requirements, as well as increased motivation to plan for a career and to consider a range of career options. The advantages which the program offers guidance staff included the program's value in helping students to explore themselves and various career alternatives in a systematic fashion, giving Student Services a higher profile, and bringing students in for career counselling who might otherwise not have come.

This year, guidance counsellors listed a number of the disadvantages of the CHOICES program. These included the time consuming nature of the program and related staffing issues, a variety of operational difficulties, the inadequacies of the Education and Training file, and the extra effort that is required to use the program effectively with general level and/or intermediate grade students. Guidance counsellors are working towards resolving these problems in a manner which suits the particular circumstances of their schools. Since the majority of counsellors stated unequivocally that CHOICES should be maintained, it is clear that the specific problems encountered in each school this year are generally not viewed as insurmountable. Furthermore, for the majority of guidance staff the benefits gained from the program outweighed the disadvantages.

The results of the pre/post-test analysis of the Career Planning Survey provided further evidence that participation in the CHOICES counselling process is beneficial to students. Following their use of the CHOICES program, students showed greater career maturity on both the Career Knowledge and Decisiveness Scale and the Satisfaction with Career and Educational Plans Scale than a comparison sample of students who did not participate in CHOICES.

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APPENDIX A

INTERVIEW SCHEDULE FOR CHOICES EVALUATION

I. Implementation

a) How has CHOICES been implemented in your school? How were students made aware of its existence? What sort of preparation/follow-up do students receive?

b) Was the training you received adequate? Were there any problems with respect to installation, utilization? How often were you in contact with the V.C.C.?

c) Has CHOICES been used by anyone other than students (e.g. subject teachers, counsellors)?

II. Evaluation

a) What advantages does it offer to students - personally?
- educationally?
- vocationally?

b) What advantages does it offer guidance counsellors?

c) What are the disadvantages associated with CHOICES?

d) Do you have to sacrifice time in other areas to accommodate CHOICES? If yes, is it worth it? Is there a greater emphasis on careers than before?

e) Has CHOICES brought some students into Student Services for career counselling who might otherwise not have come? Has CHOICES helped make students/teachers more aware of Student Services and what is available?

f) How does CHOICES compare with interest and aptitude tests you have used? With S.G.I.S.?

g) When should CHOICES be first introduced to students?

h) What has been the feedback from - students?
- parents?
- teachers?
- guidance staff?
- school administration?
- others (e.g. employers, post-secondary institutions)?

i) Should CHOICES be maintained? Do you have any suggestions for changes in the way it has been implemented, is being used?

APPENDIX B

CHOICES QUESTIONNAIRE

Sex: Male ☐ Female ☐

Grade: 9 ☐ 10 ☐ 11 ☐ 12 ☐ 13 ☐

Level of Study: General ☐ Advanced ☐

PRE-CHOICES COUNSELLING/PREPARATION

1. How did you find out about CHOICES?

- whole class participated ☐
- notice on board ☐
- referred by a guidance counsellor ☐
- career development course/World of Work ☐
- referred by a teacher ☐
- friend ☐
- newspaper/newsletter/student calendar ☐
- parent volunteer/student monitor ☐
- other (please specify) _____ ☐

If your whole class participated in CHOICES, would you have used it if it had not been required?

Yes ☐ No ☐ Don't Know ☐

2. Before completing the guide, what kind of preparation did you receive?

- group orientation session to explain what CHOICES is and how to complete the guide ☐
- individual orientation session ☐
- both group and individual orientation sessions ☐
- none ☐

By whom was the orientation conducted?

- guidance counsellor ☐
- teacher ☐
- student ☐
- parent volunteer ☐
- other (please specify) _____ ☐

3. Did you see the video explaining the CHOICES process?

Yes ☐ No ☐

4. Did you find the guide difficult to understand?

Not at all difficult		Somewhat difficult		Very difficult
☐	☐	☐	☐	☐

5. Did you find the guide long?

Not at all		Somewhat too long		Much too long
☐	☐	☐	☐	☐

6. To what extent did completing the guide help you to clarify your interests, abilities and career goals?

To a great extent		Somewhat		Not at all
☐	☐	☐	☐	☐

7. To what extent did completing the guide help you to become more aware of how to make career decisions?

To a great extent		Somewhat		Not at all
☐	☐	☐	☐	☐

8. To what extent did completing the guide help to prepare you for the use of the computer?

To a great extent		Somewhat		Not at all
☐	☐	☐	☐	☐

9. After completing the guide and before using the computer did you participate in a one-to-one counselling session with a counsellor/teacher?

Yes ☐ No ☐

USING THE COMPUTER

10. How difficult was it to understand the CHOICES program the first time you used it?

Not at all difficult		Somewhat difficult		Very difficult
☐	☐	☐	☐	☐

11. Which routes did you use? (Check all that apply)

Explore	☐
Specific	☐
Compare	☐
Related	☐

12. Which route did you find most valuable? (Check only one)

Explore	☐
Specific	☐
Compare	☐
Related	☐

Why? _____

_____

13. Did you use the Education and Training file?

Yes ☐ No ☐

If yes, how many occupations did you investigate? _____

How helpful did you find the Education and Training file?

Very helpful		Somewhat helpful		Not at all helpful
☐	☐	☐	☐	☐

Please explain: _____

_____

14. How comfortable did you feel dealing with the computer?

Very comfortable ☐ ☐ Somewhat comfortable ☐ ☐ Not at all comfortable ☐

If you didn't feel comfortable, why not? _____

_____

_____

_____

FOLLOW-UP ACTIVITIES

15. What did you do with your computer printout from CHOICES?

- showed it to a friend ☐
- showed it to a parent/guardian ☐
- showed it to a counsellor ☐
- showed it to a teacher ☐
- threw it away ☐
- studied it by myself ☐

16. Did using CHOICES stimulate discussion with parents, friends and/or others regarding occupations?

Yes ☐ No ☐

17. Did you spend time with a counsellor/teacher discussing your printout?

Yes ☐ No ☐

The amount of time was: Too long ☐ About right ☐ Too short ☐

How valuable was the discussion?

Very valuable ☐ ☐ Somewhat valuable ☐ ☐ Not at all valuable ☐

Please explain: _____

_____

18. As a result of your discussion with the counsellor/teacher did you identify any of the below as possible follow-up activities? (Check all that apply)

- further testing to clarify interests and aptitudes ☐
- investigation of training programs and apprenticeships ☐
- related work experiences (volunteer, co-operative, summer) ☐
- discussions with people working in different occupations ☐
- visits to various work sites ☐
- examining educational possibilities ☐
- more in-depth research on occupations ☐
- using CHOICES again ☐
- other _____ ☐
  (please specify)

19. Have you followed-up on any of the suggestions?

Yes ☐ No ☐

If yes, which ones? If no, why not?

_____

_____

_____

_____

CHOICES AS A CAREER-COUNSELLING TOOL

20. Had you discussed possible future occupational choices with a counsellor/ teacher prior to using CHOICES? With anyone else?

	Yes	No
- counsellor/teacher	☐	☐
- others	☐	☐

21. Have you ever taken any interest or aptitude tests?

Yes ☐ No ☐

If yes, how helpful were they compared to CHOICES?

More helpful ☐ ☐ Same ☐ ☐ Less helpful ☐

22. Did you have a clear idea of the occupations you were interested in before using CHOICES?

Yes ☐ No ☐

If yes, did CHOICES confirm your ideas, or did it present new alternatives?

- confirmed ideas ☐
- presented alternatives ☐
- both ☐

23. How useful was CHOICES in helping you to find out which occupations might fit your interests/abilities?

Very useful ☐ ☐ Somewhat useful ☐ ☐ Not at all useful ☐

Please explain: _____

_____

24. Did CHOICES provide you with information you didn't already have?

Yes ☐ No ☐

If yes, please explain: _____

_____

_____

25. In general, how helpful was CHOICES?

Not at all helpful		Somewhat helpful		Very helpful
☐	☐	☐	☐	☐

26. Is there anything that could have made your experience with CHOICES more useful?

- no ☐
- knowing more about using the CHOICES program ☐
- using the CHOICES program more often ☐
- spending more time when at the computer ☐
- using the computer by myself ☐
- having more counsellor assistance ☐
- other: _____ ☐

_____

27. To what extent do you think CHOICES will affect your career plans?

To a great extent		Somewhat		Not at all
☐	☐	☐	☐	☐

Please explain: _____

_____

CHOICES AND CAREER-COUNSELLING SERVICES

28. To what extent has CHOICES enabled guidance counsellors to provide more extensive career counselling?

To a great extent	Somewhat	Not at all	Don't know
☐	☐	☐	☐

Comments: _____

_____

_____

29. Would you have approached Student Services for career counselling if you hadn't heard about CHOICES?

Yes ☐ No ☐ Don't Know ☐

If no, why not? _____

_____

30. Were there some things that you could tell CHOICES that you would have been uncomfortable saying to a counsellor?

Yes ☐ No ☐

31. Would you recommend CHOICES to other students in your class?

Yes ☐ No ☐

If no, why not? _____

_____

32. If the CHOICES program were always available in your school, how often would you use it?

- never ☐
- once a year ☐
- twice to three times a year ☐
- more than three times a year ☐

Any additional comments? _____

_____

_____

_____

_____

THANK YOU FOR YOUR CO-OPERATION

ERES
Revised
Oct/85

Name _____

APPENDIX C

CAREER PLANNING SURVEY

A. Sex: Male ☐ Female ☐ Grade: 9 ☐ 10 ☐ 11 ☐ 12 ☐ 13 ☐ Level of Study: General ☐ Advanced ☐

B. **Indicate the extent to which you agree or disagree with each of the following statements. Choose the answer that best represents your present opinion.**

		Strongly Agree 1	Agree 2	Unsure 3	Disagree 4	Strongly Disagree 5
1.	I have decided on an occupational field in which I would like to work.	☐	☐	☐	☐	☐
2.	I often think about what I would like to do but I haven't come to any real decisions.	☐	☐	☐	☐	☐
3.	I haven't given much thought to choosing an occupation.	☐	☐	☐	☐	☐
4.	I'm not going to worry about choosing an occupation until I get out of school.	☐	☐	☐	☐	☐
5.	I am confused about the whole problem of deciding on an occupation.	☐	☐	☐	☐	☐
6.	I need to know what kind of person I am in order to choose an occupation.	☐	☐	☐	☐	☐
7.	I have a good idea of what my values, goals and interests are.	☐	☐	☐	☐	☐
8.	I know what kind of occupations would best suit my values, goals and interests.	☐	☐	☐	☐	☐
9.	I have to know what my strengths and weaknesses are before I can choose an occupation.	☐	☐	☐	☐	☐
10.	I don't know what my major strengths and weaknesses are.	☐	☐	☐	☐	☐

	Strongly Agree 1	Agree 2	Unsure 3	Disagree 4	Strongly Disagree 5
11. I don't know what occupations I could do well in.	☐	☐	☐	☐	☐
12. I don't know of any occupations that interest me.	☐	☐	☐	☐	☐
13. It is important that I know about many occupations before I make a choice.	☐	☐	☐	☐	☐
14. I need to become more aware of the variety of occupations there are to choose from.	☐	☐	☐	☐	☐
15. I need more information about what different occupations are like before I make a decision.	☐	☐	☐	☐	☐
16. I know very little about the skills required for different occupations.	☐	☐	☐	☐	☐
17. I don't know how to go about getting into the different kinds of occupations I'm interested in.	☐	☐	☐	☐	☐
18. I don't know what courses I should be taking in school.	☐	☐	☐	☐	☐
19. I am aware that for each occupation there are many others which have similar characteristics.	☐	☐	☐	☐	☐
20. I will probably have to compromise some of my interests when choosing an occupation.	☐	☐	☐	☐	☐
21. It is important for me to develop alternative occupational choices which are related to my interests, goals and abilities.	☐	☐	☐	☐	☐
22. I don't know whether my occupational plans are realistic.	☐	☐	☐	☐	☐

C.1. How confident do you feel about your ability to make an occupational decision?

Very confident		Somewhat confident		Not at all confident
☐	☐	☐	☐	☐

2. How much assistance do you need with educational planning?

No assistance		Some assistance		A lot of assistance
☐	☐	☐	☐	☐

3. How much assistance do you need with career planning?

No assistance		Some assistance		A lot of assistance
☐	☐	☐	☐	☐

4. How satisfied are you with your current educational plans?

Very satisfied		Somewhat satisfied		Not at all satisfied
☐	☐	☐	☐	☐

5. How satisfied are you with your current career plans?

Very satisfied		Somewhat satisfied		Not at all satisfied
☐	☐	☐	☐	☐

D. For each of the following, select and circle the most appropriate answer based on the information given. Circle only one answer.

1. When trying to make a decision, which of the following is the best way to begin to eliminate alternatives?

   A Omit any alternative that seems risky
   B Eliminate any alternative that you don't have much information about
   C Discard the least desirable alternatives and continue to gather information about the choices still being considered
   D Eliminate any alternative that does not completely satisfy all of your requirements

   A B C D

2. Larry thinks he would like to teach arts and crafts to senior citizens. But he is afraid he would get very upset if one of his students became very ill or died. Larry has made a list of things he might do to explore his feelings. All of the following alternatives would give Larry accurate information about himself and his feelings **EXCEPT**:

   A Taking a psychology course on problems of the aged
   B Teaching arts and crafts to children at a community centre
   C Visiting a home for ill and disabled senior citizens
   D Talking to friends about how it feels to know someone who is dying

   A B C D

3. Carlos describes himself in this way: "I like doing something useful for other people. Since I'm good at working with my hands, I have the most fun when I make something for someone else". Which of the following activities would probably be **BEST** suited to Carlos' interests?

   A Measuring and establishing official land boundaries
   B Collecting tickets and fares from passengers on a train
   C Building and installing cabinets in people's homes
   D Recording science textbooks for blind students

   A B C D

4. . Selling automobiles at a used-car lot
. Aiding people in the research room of a library
. Driving a taxicab during rush hour in a large city
. Showing people seventeenth- and eighteenth-century homes that have been restored to look just as they did in the past

Which of the following skills is common to all of the work activities listed above?

A Responding to instructions and questions quickly and accurately
B Having a good eye-to-hand co-ordination under pressure
C Remembering the order of a list of items
D Handling small objects skillfully

A B C D

5 Maria joined her high school debating team at the beginning of grade 10. For two years, she never lost a debate. The director of the debating team told Maria that, since she was so good at debating, she ought to become a lawyer. Maria thought this advice sounded good, so she applied to universities with pre-law programs.

What was wrong with Maria's decision?

I. She didn't consider all the aspects of a lawyer's job
II. She didn't consider other professions in which she could use her debating skills
III. She relied too heavily on the advice of the debating team director

A I. only
B III. only
C I., II. and III.
D I. and II. only

A B C D

6. Ben rarely becomes upset when things go wrong. He remains calm and tries to find the solution to the problem. When he is with other people, he is able to say or do things that make them feel good. He handles embarrassing or upsetting situations without offending anyone. In which of the following work activities would Ben's special skill be **MOST** effectively used?

A Collecting and analyzing written reports about job characteristics in order to prepare job descriptions
B Setting up an operating room with instruments and supplies that may be needed during an operation
C Helping customers exchange merchandise in a complaint department of a large store
D Preparing and analyzing financial reports to assist managers in making important business decisions

A B C D

7. Ashra, a grade 13 student, has artistic talent. She isn't sure what she should do after graduation. She could apply to the well-known art school that her art teacher recommended, but this school is in a distant province and Ashra isn't sure that she wants to leave her family and friends. Her parents think she should go to a nearby community college so that she can learn about a variety of subjects, not just art. To help with her decision, Ashra listed her values.

   . Recognition for her art work
   . Being close to family and friends
   . Getting good training in art
   . Making money

   Ashra realizes that if she attends the local community college, she can satisfy her desire to be close to her family and friends and that if she goes to the art school, she can get the strong art training that she wants. She is considering the advantages and disadvantages of these two choices.

   What does Ashra need to realize before she makes her decision?

   A She will have to change her values before she can make a decision
   B She will have to compromise some of her values when she makes her decision
   C She should postpone the decision until she can make one that satisfies all her values
   D She should ask someone to help her make the decision since she is having trouble doing it by herself

   A B C D

8. Jim is considering becoming an elementary school teacher. Which two of the following activities would provide him with experiences that would help him make up his mind about whether he would enjoy this kind of work?

   I. Camp counselling
   II. Babysitting
   III. Selling children's magazines
   IV. Writing a story for children

   A I. and II.
   B I. and IV.
   C II. and III.
   D III. and IV.

   A B C D

9. From what the following people say about themselves, which person would be **MOST** satisfied in a job that involved developing new varieties of vegetables?

Person A "I like to feel special and know that other people envy me."
Person B "I really like being around friends and meeting new people."
Person C "I think it's important to be physically fit and to do some exercise everyday."
Person D "I like to stay with something even though it may take a long time to complete."

A B C D

10. Which of the following work activities would **BEST** satisfy a person who valued leadership (guiding others, telling them what to do, having responsibility for others)?

A Working with a group of salesmen to develop a new product line
B Inspecting cartons of fruit for damage
C Training workers to use new farm equipment
D Checking credit ratings for credit card applications

A B C D

11. . Taking care of small children in a day-care centre
. Operating a used clothing shop for patients in a mental hospital
. Giving physical therapy to children who have crippling diseases
. Teaching swimming at a community centre

Any one of the activities above would probably be satisfying to a person who valued:

A Helping others (working directly to help people improve their health, education, and welfare)
B prestige (having people respect one, look up to one, and value one's opinions)
C Variety (frequently meeting new people, travelling to new places, doing different kinds of activities)
D High income (having money to use as one wishes after having paid one's basic living expenses)

A B C D

12. Leon has been interested in flying for a long time. He plans to become an airline pilot. His guidance counsellor has suggested that he also find out about careers in aeronautical engineering, aeronautical mechanics, and air traffic control.

The counsellor's advice supports the idea that:

A A person's interests and goals can be satisfied by more than one job
B The choice of a job is not an important matter
C The more you learn about careers, the harder it is to make up your mind
D Finding a job that satisfies a person's interests is very difficult

A B C D

13. Lin is going to graduate from high school in June. She has been accepted by a university but has not yet decided on a major. She is not even sure what subject areas she might be interested in. All of the following activities would give Lin information about her interests **EXCEPT**:

A Making a list of all the things she likes to do
B Finding out how she did on a multiple-choice test on which she indicated her preferences for various work activities
C Planning to register for some courses in subject areas she has never tried before
D Asking her math teacher how her mathematical ability compares with that of her classmates

A B C D

14. Students who plan ahead often have an easier time getting a beginning job. Which of the following activities would be **LEAST** useful for this purpose?

A Finding summer jobs that will give you experience in the kind of work you think you would like to do eventually
B Doing volunteer work related to possible future jobs
C Participating in extra-curricular activities that are connected with a job field that interests you
D Asking someone who knows more about working to choose the kinds of jobs that you should apply for

A B C D

15. Which two of the following activities require the ability to influence others' ideas?

I. Selling insurance
II. Proofreading a manuscript
III. Checking blood specimens
IV. Writing advertisements

A I. and III.
B I. and IV.
C II. and III.
D II. and IV.

A B C D

16. Fatima feels very satisfied when she knows that her math homework is accurate and complete. She always checks her calculations for errors and keeps working until she gets the correct answer. Which of the following work activities would **BEST** suit Fatima's interest in mathematics?

A Giving legal advice
B Helping people secure loans from the bank
C Selling math textbooks to high schools, universities and community colleges
D Keeping records of money coming in and going out of a business

A B C D

17. Bob is a grade 11 student with no educational or vocational plans beyond high school. What would you recommend that Bob do first?

A A thorough search of community colleges and universities to attend
B An analysis of relevant personal characteristics such as abilities, interests, and values
C An intensive study of information about occupations
D A matching of Bob's abilities with job requirements

A B C D

18. Which two of the following work activities require the ability to write clearly worded sentences and paragraphs?

I. Drawing blueprints
II. Reporting for a newspaper
III. Selling magazines
IV. Editing a journal

A I. and II.
B I. and III.
C II. and III.
D II. and IV.

A B C D

19. A high school student is interested in becoming a lawyer, but, on the basis of his marks and test scores, doubts that he would get into law school. Which of the following would be the **BEST** way for him to find out about other law-related occupations that might interest him?

A Scanning help wanted advertisements in newspapers
B Reading the calendars of various universities and community colleges
C Reading pamphlets about legal occupations
D Taking a vocational aptitude test

A B C D

20. Carol has always been good in math. She is trying to decide how she can relate her skill in math to an occupation. In her attempt to make a career decision, Carol would probably be most helped by:

A Using a variety of resources, such as reference books and knowledgeable people, to develop alternative career choices that require skill in math
B Picking one math-related occupation at random and investigating it thoroughly
C Requesting advice from the person whose opinion she values most and taking the advice that this person offers
D Investigating a wide variety of occupations unrelated to math, even those that she would not like, to see whether her interest in math is still strong

A B C D

THANK YOU FOR YOUR CO-OPERATION

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APPENDIX D

Reliability analyses were conducted on the three scales of the Career Planning Survey by staff at the Institute for Social Research, York University. Reported below are the internal consistency reliabilities, calculated using Cronbach's coefficient alpha, for both Year I and Year II of the CHOICES evaluation. The items which were included in each of these scales and the rationale for their inclusion is discussed below.

Internal Consistency Reliabilities For The Career Planning Survey Scales[1]

		Year I	Year II
Scale B	(22)[2]	.63	.66
B	(15)[3]	.83	-
B.1	(16)	-	.80
B.2	(6)	-	.80
Scale C	(5)	.73	.71
Scale D	(28)	.83	-
D	(20)	.82	.82

The internal consistency for Scale C (entitled "Satisfaction with Current Educational and Career Plans") was acceptable given the small number of items, and was virtually unchanged from Year I to Year II. For Scale D (entitled "Application of the Career Decision-Making Process"), the internal consistency of the entire set of 28 items was good. When the eight least discriminating items were deleted, the internal consistency remained at about the same level. In contrast, the reliability for the 22 items of the B scale was quite modest (.63) by comparison with the other Career Planning Scales.

For Scale B, more detailed examination in Year I of the average correlation among the items, the item total correlations and the coefficient alphas if specific items were deleted, suggested that a number of items should be deleted from Scale B in order to improve its internal consistency. The coefficient alpha for an abbreviated 15 item scale was quite good at .83 and was substantially higher than that found for the scale as a whole. The remaining seven items were simply deleted from Scale B, resulting in a considerable narrowing of the item content. However, inspection of the correlations among all 22 items suggested the possibility that the Scale B items might assess two separable

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1. If no coefficient alpha is printed, it was not computed for that scale in that year.

2. The number of items included in each scale appears in parentheses.

3. Item 2 was erroneously reverse scored in Year I as is discussed in a subsequent section of this Appendix, and was ultimately deleted as a poor item. In Year II, this error was corrected. Thus, Scale B.1 (16) includes item 2 plus all of the other items included in Scale B (15).

aspects of career maturity. In order to test this possibility, all 22 items were retained in the version of the Career Planning Survey which was used in Year II of the evaluation of CHOICES.

Further inspection of the items deleted from Scale B based on last year's analyses suggested that one item (item 2) which had been deleted last year as one of the worst items should not have been reverse scored. Some of the confusion in interpreting and scoring this item is undoubtedly due to its compound nature ("I often think about what I would like to do but haven't come to any real decisions"). In last year's analysis, "strongly agree" was scored as 5 under the assumption that agreement indicated greater career maturity. However, when scored in this fashion, this item was significantly negatively correlated with the total of the remaining items in the B scale (-.32). In the Year I analysis, it was found that deletion of that item alone raised the internal consistency of Scale B to .69.

On theoretical grounds it can be argued that not having come to a career decision may indicate less career maturity, despite the fact that the respondent may have thought about the issue repeatedly. Thus, reliability analyses conducted in Year II were based on agreement with this item scored as reflecting lower career maturity. The internal consistency of the 22 item scale was thus slightly improved (.66). Furthermore, item 2 correlated positively (.35) with the total scale. Since deletion of item 2 would have lowered the internal consistency of the total scale, it was retained as part of Scale B.

Below are the intercorrelations found in Years I and II for the six items which it was suspected might relate to a different aspect of career maturity than the remaining 16 items in the scale. All items were significantly positively associated with each other, with the exception of a nonsignificant association between items 6 and 20.

Correlations Among a Selected Subset of Items From Scale B[1]

Item #	6	9	13	14	15	20
6	-	.55	.35	.34	.50	.16*
9	.51	-	.55	.34	.51	.37
13	.29	.41	-	.45	.47	.28
14	.27	.21	.42	-	.70	.25
15	.39	.31	.50	.62	-	.25
20	.12*	.30	.32	.29	.20	-

Inspection of the larger correlation matrix which included all 22 items from Scale B revealed that these six items tended to correlate negatively or not at all with the remaining 16 items. This is reflected in the fact that the average

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1. Correlations appearing above the diagonal are based on the pre-test data collected in Year II (n = 76). Those below the diagonal were based on data from Year I (n = 153). Correlations marked with an asterisk are not statistically significant.

inter-item correlation among all 22 items was only .08 in the analyses from Year I.

To test the possibility that Scale B might consist of two subscales, internal consistencies for the above set of six items, and for the remaining 16 items were calculated separately. The pre-test Career Planning Survey data collected in Year II was used for this analysis (N = 76). Both subscales, labelled as Scale B.1 and Scale B.2 in the first table in this Appendix, had good internal consistencies of .80. Based on this analysis, the only questionable item which made little contribution to the 16 item B scale was item four. The correlation of this item with the total score based on the remaining items was essentially zero. Furthermore, there would have been a slight increase in internal consistency reliability to .81 if item four were deleted. However, for the sake of convenience this item was retained in Scale B.1. Inspection of the items of the two B subscales suggested that the following labels described the content of these scales:

- Scale B.1 - Career Knowledge and Decisiveness
- Scale B.2 - Need for Information

The intercorrelations found among the three scales of the Career Planning Survey in Year I are reported below. Only the correlation between scales B and C was statistically significant, with a sample size of 153.

Year I Correlations among Career Planning Survey Scales

	Scale		
	B	C	D
B	-	.54	.15
C		-	-.08
D			

The correlations among the four Career Planning Survey scales in Year II are reported in the following table. Intercorrelations among the pre-test scales are below the diagonal (N = 76), while those among the post-test scales are reported above the diagonal (N = 98).

Year II Correlations among Career Planning Survey Scales

	Scale			
	B.1	B.2	C	D[1]
B.1	-	-.22	.77	.09
B.2	-.33	-	-.29	-.03
C	.69	-.35	-	.05
D	.08	.06	-.16	-

1. None of the correlations between scale D and the other scales are statistically significant, whereas the remainder are significant at the $P < .05$ level.

Scale B.1 is very strongly related to Scale C for both the pre- and post-test measures. Both correlations represent stronger relationships between these measures than was found last year between Scale B and C. Furthermore, Scale B.2 is significantly negatively related to Scale C for both pre- and post-test measures. The different direction of the relationships between Scale C and Scales B.1 and B.2 likely accounts for the lower correlation found last year between Scale C and the combined Scale B. Test/re-test correlations for the Career Planning Survey Scales ranged from a low of .61 for Scale D to a high of .68 for Scale C. The time interval between testings varied widely due to difficulties in collecting post-test data.

The negative relationship between the two B scales is particularly noteworthy in view of the fact that it was expected that a high score on both sets of items would reflect greater career maturity. Those students who recognized that they needed more information in order to make an informed career choice (Scale B.2) tended to receive lower scores on the Career Knowledge and Decisiveness Scale (Scale B.1). Although recognition that certain specific types of information are necessary in order to make a career choice may reflect a greater knowledge of the process of career decision-making, greater understanding of the process need not imply that the student has attained the desired outcome (i.e. the student has acquired all the necessary information and has made a career decision).

APPENDIX E

Summary Tables for the Analyses of Variance
Conducted on the Career Planning Survey Scales

Scale B. 1 Career Knowledge and Decisiveness

Source	SS	df	MS	F
(Between) School	.35	1	.35	.00
Treatment	26.75	1	26.75	.23
School X Treatment	2.27	1	2.27	.02
Error	7768.23	68	114.24	
(Within)				
Time (Pre/Post)	222.92	1	222.92	9.31 **
School X Time	44.51	1	44.51	1.86
Treatment X Time	160.49	1	160.49	6.70 *
School X Treat. X Time	6.42	1	6.42	.27
Error	1628.09	68	23.94	

Scale B. 2 Need for Information Scale

Source	SS	df	MS	F
(Between) School	1.47	1	1.47	.05
Treatment	8.49	1	8.49	.26
School X Treatment	57.43	1	57.43	.77
Error	2208.62	68	32.48	
(Within)				
Time (Pre/Post)	2.75	1	2.75	.45
School X Time	12.18	1	12.18	2.00
Treatment X Time	1.48	1	1.48	.24
School X Treat. X Time	1.19	1	1.19	.19
Error	414.46	68	6.10	

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* $p < .05$

** $p < .01$

Scale C Satisfaction with Career and Educational Plans[1]

Source	SS	df	MS	F
(Between)				
School	.06	1	.06	.00
Treatment	.62	1	.62	.03
School X Treatment	23.08	1	23.08	1.02
Error	1538.21	68	22.62	
(Within)				
Time (Pre/Post)	88.99	1	88.99	24.04 ***
School X Time	.38	1	.38	.10
Treatment X Time	49.89	1	49.89	13.48 ***
School X Treat. X Time	1.19	1	1.19	.32
Error	251.72	68	3.70	

Scale D Application of the Career Decision-Making Process[1]

Source	SS	df	MS	F
(Between)				
School	74.06	1	74.06	9.82 **
Treatment	.59	1	.59	.08
School X Treatment	17.51	1	17.51	2.32
Error	490.36	65		
(Within)				
Time (Pre/Post)	13.85	1	13.85	4.40 *
School X Time	9.71	1	9.71	3.08[2]
Treatment X Time	4.88	1	4.88	1.55
School X Treat. X Time	.52	1	.52	.17
Error	204.63	65	3.15	

* $p < .05$
** $p < .01$
*** $p < .001$

1. The sample size was reduced by 3 because outlying cases were discarded. The results of analysis of variance and multiple regression techniques have been shown to be considerably altered by the presence of "unusual" cases with extreme values on the variables in question.

2. $P = .08$

Because of the availability of a number of additional post-test Career Planning Surveys without matched pre-tests, simpler versions of the afore-mentioned ANOVAS were conducted, this time comparing the post-test scores of students in the CHOICES and no treatment comparison groups. Thus, treatment group was the only factor in the four, one-way ANOVAS which were conducted, one ANOVA for each of the four dependent variables. Six additional post-test surveys were available from each of the two schools already included in the pre/post-test analysis. Fourteen more post-test questionnaires were obtained from two additional schools, resulting in a total sample of 98.

Consistent with the more complex repeated measures analyses, the students who participated in the CHOICES program received higher career maturity scores on both the Career Knowledge and Decisiveness and the Satisfaction with Career and Educational Plans measures (Scales B. 1 and C, respectively). In addition a marginally significant difference between groups was also found on the Need for Information Scale (Scale B. 2), with students in the no treatment group receiving higher post-test scores than the students who used CHOICES. Higher scores on this measure reflect a greater need for information in order to make a career choice. This finding provides additional evidence of the benefits of the CHOICES program in that it may help students feel that they have more of the information which is necessary to make an informed choice. Consistent with the pre/post analysis no differences between treatment groups were found for the fourth outcome measure, reflecting the application of the career decision-making process. The detailed results of these analyses are provided below.

Post-test only Analyses of Variance on the Career Planning Survey Scales

	Scale	Means		Sample Size	F Ratio
		CHOICES	Control		
B. 1	Career Knowledge and Decisiveness	62.42	58.33	98	4.89 **
B. 2	Need for Information[1]	22.73	24.10	94	3.89 *
C	Satisfaction with Career and Educational Plans	17.56	15.91	98	4.66 **
D	Application of the Career Decision-Making Process	15.02	14.61	98	.48

1. Four outlying cases were discarded from this analysis on statistical grounds.

* $p = .051$

** $p < .05$